

REMARKS

In the outstanding Official Action, claims 1-33 are pending consideration and all of these claims are rejected for reasons of record provided herein. Applicant submits that the following description disclosed from line 25 in page 20 to line 7 in page 21, it becomes apparent that the property variable layer recited in claim 1 does not contain a photocatalyst. The written description discloses a case where the wettability variable layer is used as the property variable layer, the pixel part is formed on the wettability variable layer. Accordingly, the pixel part will not be in direct contact to the photocatalyst containing layer, i.e., photocatalyst.

In the reference 1, the ‘313 patent, on the other hand, the photocatalyst- containing layer (second photocatalyst-containing layer), whose properties change by being exposed to light, contains a photocatalyst.

Amended claim 1 is provided to clarify that the property variable layer does not contain a photocatalyst. Further, it is noted that the structural difference between the ‘313 reference and the instant invention as defined in claim 1 allow one to achieve the following advantageous effects.

One difference between Applicant’s invention and that of the ‘313 patent is that the present invention enables the change only the property variable layer in the area where the light shielding part is not formed, even when the energy is irradiated to the entire surface of the property variable layer. Accordingly, the effect of being able to easily form a property-varied pattern in an area where a pixel part is to be formed can be achieved (line 22, page 4 to line 10, page 5). In the ‘313 reference, forming a property-varied pattern in an area where a pixel part is to be formed restricts the energy irradiation to the one via a mask or to the one from the transparent substrate side. This is because the property variable layer (second photocatalyst-containing layer) contains the photocatalyst. Accordingly, the ‘313 reference lacks the additional process steps disclosed by Applicant for forming a pattern forming body.

When a pixel part is formed on the pattern forming body as set forth in claim 1 so as to make a color filter and an electrode layer is further provided on the color filter, a light shielding

part, a pixel part and a property variable layer (as shown in FIG. 3) are formed between the electrode layer and the photocatalyst containing layer. Accordingly, conductivity of the photocatalyst containing layer is not likely to adversely affect the pressure applied by the electrode layer to the liquid crystal. Therefore, another advantage is achieved by not effecting the alignment of the liquid crystal formed on the electrode layer (lines 16-26, page 5). In the ‘313 reference, since the property variable layer (second photocatalyst-containing layer) contains the photocatalyst, the photocatalyst-containing layer and the electrode layer may contact each other, or the gap between the two layers gets small, when the electrode layer is formed on the color filter. Accordingly, the photocatalyst-containing layer may adversely affect the alignment of the liquid crystal formed on the electrode layer.

Moreover, when the photocatalyst containing layer is formed on the light shielding part provided on the transparent substrate, the photocatalyst containing layer generally has an irregular shape due to the irregular shape of the light shielding part itself. Thus, cracks are easily generated. In the present invention, the photocatalyst containing layer is flat, because the photocatalyst containing layer is formed only on the substrate. Therefore, the present invention is another advantageous effect of restricting the crack generation (lines 4-18, page 17). In the ‘313 reference, since the property variable layer (second photocatalyst-containing layer) is formed on the light shielding part, the irregular shape of the light shielding part affects the property variable layer and cracks may be generated on the property variable layer.

For these reasons, it is submitted that claim 1 is structurally different from the ‘313 reference and therefore, is not obvious over the ‘313 reference. Further, should claim 1 be considered to be patentably distinct, the same analysis applies to claims 2-20 as regards patentability.

Claim 21 has been likewise amended as claim 1 to clarify that the property variable layer does not contain a photocatalyst. Claims 21 and 23-27 are also therefore considered to be novel and unobvious.

Claims 1-33 further stand rejected under 35 U.S.C. 103(a) as being obvious over JP2000-227513 (reference 2) in view of US 2003/0008217 (reference 3).

In reference 2, a color filter which has the same structure as the present invention except that a shielding element is formed on a substrate.

In reference 3, a photocatalyst-containing layer side substrate comprising a base, a photocatalyst-containing layer formed on the base, and a light shielding portion formed on the photocatalyst-containing layer is disclosed. It is also disclosed that the photocatalyst-containing layer side substrate and a substrate having a characteristic-modifiable layer formed on the base are arranged in such a manner that the photocatalyst-containing layer and the characteristic-modifiable layer have a predetermined gap therebetween,

In the outstanding Action, it is stated that it would be obvious for one to combine the teaching of references 2 and 3, thus enabling a skilled person to arrive at what is set forth and claimed in claim 1 (a pattern forming body comprising; a base material: a photocatalyst containing layer formed on the base material; a light shielding part (protecting part) formed on the photocatalyst containing layer; a property variable layer formed to cover the photocatalyst containing layer and the light shielding part; and a property-varied pattern which is a property varied property variable layer.

Reference 3, however, is the invention in which the photocatalyst-containing layer and the property variable layer are arranged with a predetermined gap. That is, it is an invention achieved on condition that the photocatalyst-containing layer surface is in contact to air. This is because, such an arrangement of providing a predetermined gap allows active oxygen species generated by oxygen, water and photocatalyst action to easily desorb so that the properties of the characteristic-modifiable layer is effectively changed (the main effect of the reference 3; paragraphs [0008] and [0075]). Therefore, forming of the property variable layer on the photocatalyst containing layer with the light shielding part formed on the surface does not result in achieving the effects disclosed in the reference 3.

In view of the above, Applicant submits that the present invention cannot be achieved through routine combinations of references 2 and 3. Even if these two references were combined, Applicant submits that the combined teaching does not result in making obvious what Applicant has set forth in the aforementioned amended claims.

Favorable reconsideration is respectfully requested.

Respectfully Submitted,

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